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Article — Published Version

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Quaderni di Studi Europei

Suggested Citation: Cappiello, Antonio (2006) : Currency boards as an economic stabilization tool: How they work and where they are adopted, Quaderni di Studi Europei, ISSN 1827-451X, Giuffr  Editore, Milano, Vol. 1, Iss. 2006, pp. 41-61

This Version is available at:

<https://hdl.handle.net/10419/285318>

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CURRENCY BOARDS AS AN ECONOMIC STABILIZATION TOOL: HOW THEY WORK AND WHERE THEY ARE ADOPTED

Antonio Cappelletto

1. Introduction

The *currency board system*, known above all for the echoes aroused by the cases of Argentina and that of Hong Kong, is a topic on which it is difficult to find systematic and complete treatments in the literature, as scholars often limit themselves to the analysis or to the commentary on particularly significant cases, considered in their singularity.

Without pretending to exhaust the topic, the article aims to give a clear and complete description of the principles that regulate a *currency board type regime*, to analyse in a comparative manner the most significant, providing, in some cases, data, graphs and synoptic tables, also focusing on any advantages and disadvantages related to the political-economic context in which the *currency board* finds itself operating, without neglecting a series of opinions that international literature has expressed on the subject.

To better understand the peculiarities of a *currency board type regime*, it seems appropriate to start from an analysis of the functions of a central bank in order to highlight, from the comparison of the two systems, the reasons which, in view of particular objectives and in the presence of particular circumstances, could lead to preferring one system to the other.

A central bank has tools to support and direct a country's economic activity. Taking into account all the interacting elements in the economic context, it seeks to implement the policy that best responds to the country's needs, provides guarantees

in the event of a liquidity crisis and carries out an important supervisory function on national credit institutions.

In a system of commercial banks only, the following drawbacks could arise:

- conflicts of interest for competitiveness reasons;
- conflicts between profit maximization and the need to maintain sufficient reserves to ensure convertibility and continuity of the monetary regime;
- difficulty in assessing whether the *clearinghouse* is sufficiently independent to be able to act as a supervisor over other commercial banks (for example, by placing barriers to entry and controlling monetary policy behaviour);
- free rider*¹ problem.

The solution to these problems was the development of a non-competitive, non-profit central bank.

This type of institution has spread rapidly throughout developed countries.

The central bank holds control of the monetary base, the channels of creation of which are: the treasury, the open market, foreign countries, the refinancing of credit companies and other sectors (purchase of non-government securities, deposits at the central bank by special credit institutions).

The financial needs of the state sector (Treasury) can be covered with monetary base. This financing occurs both when the Treasury uses its current account at the central bank to meet its liquidity needs, and when the securities issued by the Treasury are purchased by the central bank upon issue. Monetary financing of public needs could weaken liquidity control and generate unwanted effects on price dynamics and the currency exchange rate. If the central bank, for example, provides unlimited advances to the treasury which found itself in a situation of permanent deficit, it would be forced to increasingly devalue its currency. Coping with hyperinflation and stabilizing monetary policy is the real problem for developing countries.

In the second half of the last century, the colonies of Great Britain, to give credibility and guarantee to their currency by limiting possible discretionary policies, created institutions that established a fixed parity between the local currency and the pound and covered the entire quantity of local emission with an equal quantity of British currency reserves so that they could meet liquidity demands at any time. This type of institution, *currency board*, effectively replaces the autonomous monetary functions of the central bank, establishing constraints on creating or eliminating the monetary base, especially in correspondence with purchases or sales of international reserves at a fixed rate. Being of British colonial origins, *currency boards* lost importance when the former colonies regained independence. Even if in some countries the fundamental characteristics of *currency boards* were preserved, such as the fixed exchange rate and complete coverage in international reserves, the

¹It derives from a *coordination failure*: inability of commercial banks to coordinate to make the central bank useless. In general, due to *free riding*, purely individualistic mechanisms do not allow the optimal performance of the banking system as a whole

advent of central banks in developing countries starting from 1920 gave rise to discretionary policies and, in some cases, to the financing of government deficits. In recent times, interest in *currency boards* has come back into vogue as a tool to stabilize the nominal exchange rate and accelerate the process of economic stabilization. The most important reasons for the renewed interest in *currency boards* must be found in the need to face the persistent inflation of some Latin American countries as well as in the need to adopt a financial system that guarantees stability for countries in transition. Furthermore, *currency boards*, effectively replacing the residual autonomous monetary functions of the central bank, could represent a radical solution for a country that is lagging behind in the process of European monetary unification.

At this point the question arises whether *currency boards* have ensured greater credibility and under what conditions. In response to these questions in the following paragraphs, after having analysed the characteristics of *currency boards*, we will briefly illustrate the origins of the *currency board system*, and then focus in more depth on the recent experience of the Argentine *currency board* operating from 1991 to 2002, and on *currency boards* currently operating in Bosnia and Herzegovina, Bulgaria, Estonia, Hong Kong and Lithuania; the *currency boards* of the latter countries will also be analysed in a comparative manner and summarized in a synoptic table. Finally, the main advantages and disadvantages of the *currency board system* will be illustrated in relation to the context in which they are called upon to operate.

2. Main characteristics of a *currency board*

A *currency board* essentially has the following characteristics:

- it is an institution that issues currency freely convertible into a pre-established foreign currency (anchor *currency*), at a fixed exchange rate;
- holds, as counterparty to the currency issued, a volume of reserves (composed of currencies) equal to at least 100% of the monetary mass issued;
- its board of directors is composed by members of different nationalities belonging to important international banks.

The profits of the *currency board* (*seigniorage*) derive from the difference between the value of the interest earned on the reserves held, and the cost incurred to put its banknotes and coins into circulation. In the event that a country decided to use a foreign currency, without therefore establishing a currency board, it would lose the right of *seigniorage*² since it would be collected by the foreign issuer.

² Governments can usually create a monetary base by printing money (e.g. to finance public spending). This form of revenue is known as *seigniorage*. This term indicates the government's ability to increase its revenues through its faculty to print money. In the past, the term indicated the income of the sovereign or lord deriving from the

The currency issued by the *currency board*, as specified in point 2, coincides with the monetary base and the banknotes and coins issued by the *currency board* are fully convertible at a fixed exchange rate into reserve currency, and vice versa. This system ensures coverage of the entire currency issued at all times, maintaining a constant monetary base/reserves ratio, thus preventing devaluation. The *currency board* therefore has no discretionary monetary power as market forces automatically determine the money supply.

Furthermore, in a *currency board regime*, commercial banks implement an independent policy and choose their own reserve ratio since the *currency board* does not provide them with loans in case they face sudden liquidity problems. If the monetary authority does not strictly follow the rule of printing money only in response to an increase in reserves, it no longer operates as a *currency board* but as a central bank. This type of operation would result in an increase in the monetary base not covered by reserves, breaking the monetary base/reserves balance and could lead the central bank to devalue its currency. In fact, if all holders of local currency decided to exchange it for foreign currency, the central bank would not be able to defend the current exchange rate.

3. Operations of a *currency board*

A *currency board*, as mentioned in the introduction, issues currency only if it is completely covered by foreign currency reserves and cannot influence the level of reserves held by commercial banks by discretionally increasing or decreasing reserve coefficients like a central bank. The last reserves of a *currency board* are therefore the assets in foreign currency.

The only way for a *currency board* to purchase new reserves is to go to the central bank that issues the currency used as reserves. This means that, making some simplifications, a change in the balance of payments in one direction modifies the country's monetary mass in the same direction. When the balance of payments is in surplus, the global money supply increases; on the contrary, it decreases when the balance of payments is in deficit.

The typical balance sheets of a *currency board*, of commercial banks and of the public are configured, by way of example, as in Table 1.

permission he granted to transform the metal into money. Currently it is also used to indicate the power of the country whose currency is used by other countries as a reserve currency.

Table 1 – *Simplified balance sheets of a currency board, commercial banks and the public in a currency board regime.*

<i>CURRENCY BOARD BALANCE SHEET</i>	
<u>assets</u>	<u>liabilities</u>
-bonds in foreign currency (reserves)	- banknotes and coins
	-net value (capital)
<i>CONSOLIDATED BALANCE SHEET OF COMMERCIAL BANKS</i>	
<u>assets</u>	<u>liabilities</u>
-banknotes and coins issued by the <i>currency board</i> (reserves)	-clients deposits
-loans and investments	-net value (shareholders' capital)
<i>CONSOLIDATED PUBLIC BALANCE SHEET</i>	
<u>assets</u>	<u>liabilities</u>
-bank deposits	-bank loans
-banknotes and coins issued by the <i>currency board</i>	-net value (public capital)

Suppose we start from a balance of payments and balance of trade in equilibrium. If there were to be a surplus in the balance of payments, there would be a growth in bank reserves and therefore an increase in the money supply, in the bank credits for the economy, a lowering of interest rates and an increase in incomes. The increase in incomes would lead to an increase in the demand for goods in general, including also the demand for currency issued by the *currency board*. The increase in the money supply would also lead to an increase in the prices of domestic goods and an increase in domestic demand for imported goods or a decrease in foreign demand for the country's goods. All this, if the economic system is sufficiently dynamic, should bring the balance of payments back to parity. Conversely, a balance of payments deficit would lead to a decrease in bank reserves, bank credits and the monetary mass. As a result, there would be an increase in interest rates on income and a fall in goods in general (including the currency issued by the *currency board*). However, in a classic model and in the absence of further economic shocks, the fall in the prices of domestic goods should lead to a decrease in domestic demand for imported goods or an increase in foreign demand for the goods of the country that issues the currency that the *currency board* uses as an *anchor*. These changes should therefore bring the balance of payments back into an equilibrium situation.

The adjustment process in a *currency board regime* is automatic and is initially regulated by market forces and not by monetary policy actions. Then, since the exchange rate is fixed, the adjustment should be accomplished entirely through

changes in the money supply, interest rates and balance of payments. In this sense, the functioning of a *currency board* is comparable to a monetary system anchored to the value of gold (e.g. *gold standard*). In principle, if trade barriers are not very restrictive, the presence of a fixed exchange rate between the currency issued by the *currency board* and the reserve currency reduces the possibility of arbitrariness between the two countries. Price changes and interest rates (unless there are fiscal or risk factors that increase borrowing costs in a given country) should not differ much between the two countries. Naturally, the hypotheses adopted so far have been very restrictive since we know that the monetary mass of a modern banking system does not necessarily remain in rigid relation with the balance of payments and there could be other factors that could simultaneously cause it to evolve in the opposite direction. Therefore, it would be possible, contrary to the scheme presented previously, that the variations in the money supply in a *currency board* develop in the opposite direction to the balance of payments trend. However, according to Hank and Schuler, the *currency board* would spontaneously attract foreign capital by increasing banks' credits and their additional reserves. Credit will contract and the money supply will stop growing when local banks have increased their lending to the point where additional lending becomes less profitable than investing abroad. In this context, the *currency bank* plays a passive role: it only converts the local currency into reserve currency and vice versa. A central bank, whose liabilities also include commercial bank deposits ³, could instead act actively by changing the exchange rate of its currency. For example, if a central bank were to decide to reduce its reserves, this would also lead to a restriction of credit and the money supply and, to reach a new equilibrium in the balance of payments, it would be forced to revalue its currency. If nominal prices do not adjust quickly, exchange rate appreciation would lead to higher domestic prices and exports could be held back.

Table 2 – Simplified *layout of the balance sheet of a currency board and a central bank* .

CURRENCY BOARD BALANCE SHEET	
<u>assets</u>	<u>liabilities</u>
-bonds in foreign currency (reserves)	- banknotes and coins
	-net value (capital)
BALANCE SHEET OF A CENTRAL BANK	
<u>assets</u>	<u>liabilities</u>
-bonds in foreign currency (reserves)	- banknotes and coins
-national bonds	- commercial bank deposits
	-net value (capital)

³ Unlike *currency board*, central banks accept deposits which will serve as reserves for commercial banks.

Table 3 – *Simplified balance sheet of a commercial bank in a currency board regime and in a central bank regime*

BALANCE SHEET OF COMMERCIAL BANKS IN A CURRENCY BOARD REGIME	
<u>assets</u>	<u>liabilities</u>
-banknotes and coins issued by the <i>currency board</i> (reserves)	-clients deposits
-loans and investments	-net value (shareholders' capital)
BALANCE SHEET OF COMMERCIAL BANKS IN A CENTRAL BANK REGIME	
<u>assets</u>	<u>liabilities</u>
-banknotes and coins issued by the central bank (reserves)	-clients deposits
-central bank deposits (reserves)	
-loans and investments	-net value (shareholders' capital)

4. Origins of current *currency board* system

Mauritius was the first colony to adopt a *currency board* in 1849 although technically it was not an orthodox *currency board* because it held 50% of its reserves in government bonds. Since the mid-19th century, the *currency board* system has been adopted by more than 70 British colonies, assuming its classic form with the *West African Currency Board* in 1913, only to fall into disuse after the Second World War when new independent states arose. The purpose of establishing the *currency board* system was to create a stable, convertible currency, such as the pound, by eliminating the costs that the colonies would have incurred if they had used British notes and coins. *Currency boards* reached their apogee in the late mid-20th century and then disappeared with the process of decolonization. Subsequently, *currency boards* survived in very small territories and were adopted by independent countries such as Argentina (1902-1914, 1927-29, 1991-2002), Panama (1904-1931), Danzig (1922-23), Iraq (1931-1949), North Yemen (1964-1971), Hong Kong (1944-1974). Singapore represents a special case of a *currency board* because it carries out typical central bank operations, including open market operations.

In the 1990s, *currency boards* experienced a certain *revival* as they allowed some transition countries to obtain stability which did not have sufficient credibility and experience to be able to manage their monetary policy autonomously through their central banks.

According to the definitions of *orthodox currency board* and *quasi-currency board* adopted in the literature, approximately twenty *currency boards* currently operating can be identified.

Table 4 - Current Currency Boards

	Year of adoption	Consider again
Bahamas	1916	Dollar US
Bermuda	1915	Dollar US
Bosnia	1997	EUR
Brunei	1967	Singapore dollar
Bulgaria	1997	EUR
Cayman Islands	1972	Dollar US
Djibouti	1949	Dollar US
Eastern Caribbean Islands	1950	Dollar US
Falkland Islands	1899	GBP UK
Gibraltar	1927	GBP UK
Guernsey	1945	GBP UK
Hong Kong	1983	Dollar US
Isle of Man	1961	GBP UK
Jersey	1963	GBP UK
Lesotho	1980	South African Rand
Lithuania	1994	EUR
Macao	1983	Hong Kong Dollar
Namibia	1993	South African Rand
Saint Helena	1917	GBP UK

Source: Hawkins, IMF (2003), World Bank (2004)

Most current *currency boards* operate, as mentioned above, in countries with very small economies such as the Bahamas, Bermuda, Brunei, Cayman Islands, Djibouti, Eastern Caribbean Islands, Faroe Islands, Falkland Islands, Gibraltar, Guernsey, Island of Man, Jersey, Lesotho, Macau, Namibia and St. Helena. However, the most interesting examples of modern *currency boards* are those currently operating in Bosnia, Bulgaria, Estonia, Hong Kong, and Lithuania.

The case of the Argentine *currency board*, operating from 1991 to 2002, is also interesting, as we will see later, also for analysing the possible drawbacks of this system.

Currency boards, especially those operating in larger economies, do not cover 100% of their money output, as suggested by purist supporters of the orthodox *currency board*, but often cover about half of it, even if the reserves/monetary base ratio it is higher than in countries that do not adopt the *currency board system*.

The high volatility of the financial markets, in which *currency boards* operate, could, in fact, make it desirable to occasionally resort to open market operations to combat the volatility of interest rates: the presence of 'globalized financial markets' seems therefore have a decisive influence on the characteristics of modern *currency boards*.

The most recent Latin American experience of a *currency board* is that of Argentina, which in 1991 adopted a convertibility plan with the aim of stabilizing prices and recovering credibility.

The convertibility law obliged the Argentine central bank to maintain a fixed parity against the US dollar, allowing changes in currency only in response to the purchase and sale of reserve currency. The Argentine central bank therefore acted as a *currency board* but maintained the role of lender of last resort in case of specific needs of the banking system.

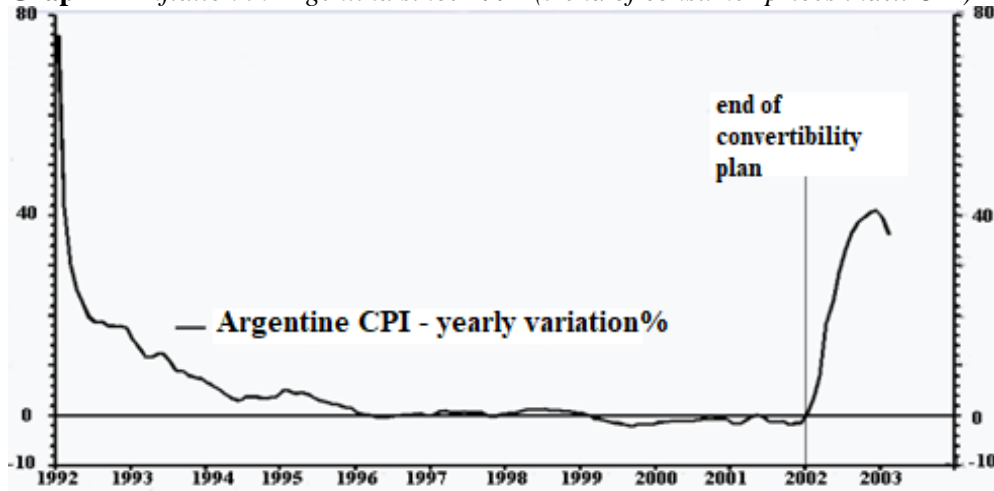
The initial results immediately led to a reduction in inflation (chart 1) and an increase in real GDP growth. However, the convertibility plan was severely tested in 1994 when the Argentine government found itself having to cover its fiscal deficit and deal with the devaluation of the Mexican peso. In 1995, many depositors, sensing the difficulties of the economic system, began to withdraw their deposits to convert them into dollars, creating financial panic.

In this situation, the Argentine central bank acted as a lender of last resort to avoid a crisis in the banking system. The crisis cost approximately three billion dollars, part of which was financed with national and foreign loans (Bank Capitalization Trust Fund) to address the liquidity problems of Argentine banks. The government subsequently had to increase taxes to fill the deficit and borrow abroad to maintain the convertibility of the currency.

Argentina therefore suffered a deep economic crisis despite the *currency board agreements*. The bad reputation in monetary policy enjoyed by Argentina in the past explains why *policy makers were better off maintaining the currency board agreements* in the hope that investors would appreciate the country's desire to emerge from the harsh recession and break with the past.

However, the devaluation of the Brazilian *real* that began in 1999 once again led to the loss of competitiveness of Argentine exports and the government was forced to increase its foreign debt which rose from 27% of GDP in 1993 to 61% of GDP in 2001.

All this entailed naturally the loss of confidence of foreign investors regarding the financial plans announced by the Argentine government. After a series of drastic measures, culminating in the freezing of bank deposits, and a series of dramatic events, a general strike, riots and looting of businesses, Cavallo and De la Rúa resigned and the convertibility plan was abandoned on 6 January of 2001 by President Eduardo Duhaide.

Graph 1 - Inflation in Argentina since 1992 (trend of consumer prices index CPI)

Source: John Greenwood 2005 – Datastream

Returning to the *currency boards* currently in operation, the case of Estonia is interesting which, in June 1992, was the first country of the former Soviet Union to introduce its own currency and to establish a *currency board*, trying with greater commitment, compared to the other former Soviet republics, to transition to a market economy. It, in fact, replaced the ruble with the crown, through a convertibility agreement with the German mark at a fixed exchange rate. However, the Estonian *currency board* cannot be considered orthodox: in fact, the central bank is composed of an issuing department which is the institution responsible for the *currency board* and a banking department which carries out the typical functions of a central bank. Since 1994, the stability of the Estonian krona resulted in an inflow of capital which, by increasing the money supply, decreased interest rates and stimulated economic growth. For this reason, Estonia was the country of the former Soviet Union that suffered least from the transition to a market economy.

Lithuania also decided to adopt a *currency board* in 1994 to give credibility and convertibility to the *varignoriki* introduced in 1991. However, the Lithuanian monetary policy program provides for the *currency board* as a temporary stabilization tool. Indeed, the first phase of the stabilization program aims to develop the monetary policy tools that will be used for temporary adjustments of liquidity fluctuations. The second phase provides for a certain flexibility in the money supply and then moves on to the *de jure abolition of currency board* agreements and reorientate monetary policy to achieve pegging of the euro. Thereafter, the *currency board exit strategy* will consist of a number of stages designed to maintain previously gained confidence in the Lithuanian currency.

In 1997, following the Bosnian-Serb conflict, Bosnia and Herzegovina also decided to adopt a *currency board* to facilitate the peace process, the transition from the centralized economy to a market economy and the process of transition from territory belonging to former Yugoslav republic as an independent State with its own institutions. The Bosnian⁴ *currency board*, established in August 1997, is configured as a central bank that decentralizes its functions. Before the establishment of the *currency board*, Bosnia's financial system was very weak and fragmented with seventy-five commercial banks, many of which were very small and did not operate across the entire national territory. Furthermore, there were four currencies (BiH dinar, Yugoslav dinar, Croatian kuna and the German mark) used simultaneously in the country and the majority of the population did not use banks for their financial transactions. The choice of the *currency board* was mainly dictated by the need to provide a very stable nominal *anchor currency* to be able to fix the exchange rate and give confidence to international financial operators.

Initially the BAM⁵ was pegged to the German Mark and then naturally linked to the euro. The choice of the *currency board* in Bosnia proved to be positive and was able to convey confidence to depositors. Indeed, between 1997 and 2003, commercial bank deposits doubled to BAM 3.7 billion. In 2003, deposits in local currency, thanks to the trust transmitted by the *currency board*, increased by approximately 30% compared to 1997. The reasons for the success of the Bosnian *currency board* must be found in the independence from political influences established in the *CBBH Law*: "*within the limits of its authority, established by this law, the central bank, in achieving its objective and tasks, must be completely independent from the government of Bosnia and Herzegovina, Republika Srpska or any other institution or authority. Furthermore, except where expressly specified by law, the central bank must not receive instructions from any other person; the independence of the central bank must be respected and no one must improperly attempt to influence any decision-making body of the central bank in the performance of its duties or interfere in its activities*".

The most important provision of the law, however, is the impossibility of extending credit and acting as a financier for the Bosnian government or for any other government entity or commercial banks. Bosnia and Herzegovina's monetary policy through the *currency board* has achieved notable results; the stability of the local currency and the transparency of CCBH operations have significantly contributed to the development of the banking sector, resulting in the inflow of foreign investments and international capital. These conditions are certainly accelerating the process of sustainable development of the Bosnian open economy, accompanying it towards a

⁴ CBBH law and Dayton Peace Agreement

⁵ Convertible Bosnian Mark

possible future close integration with the countries belonging to the European community.

In the same year as the establishment of the Bosnian *currency board*, Bulgaria also, to avoid the danger of hyperinflation and to restore confidence in international financial institutions, adopted a *currency board* which linked the local currency to the German mark also in view of a possible future integration in the EMU.

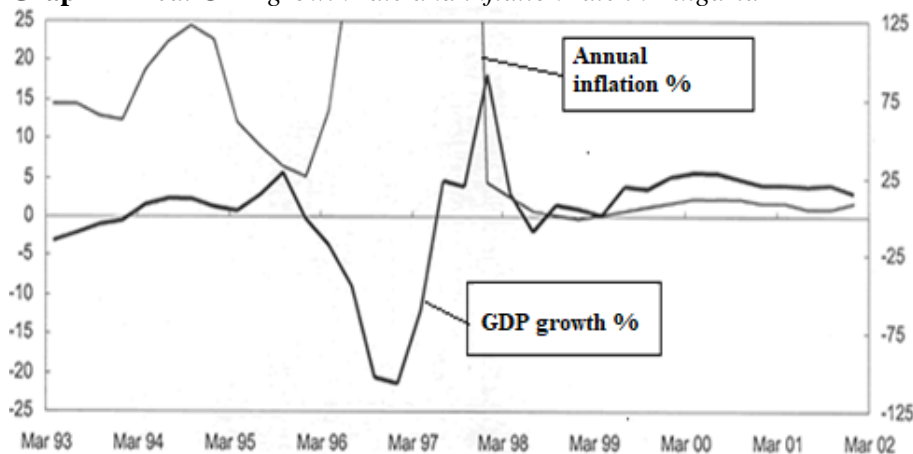
The Bulgarian *currency board* had the initial aim of overcoming a phase in which a plurality of central banks coexisted in the country and of achieving price stability.

Bulgaria's monetary policy, since 1997, has been based on the following elements:

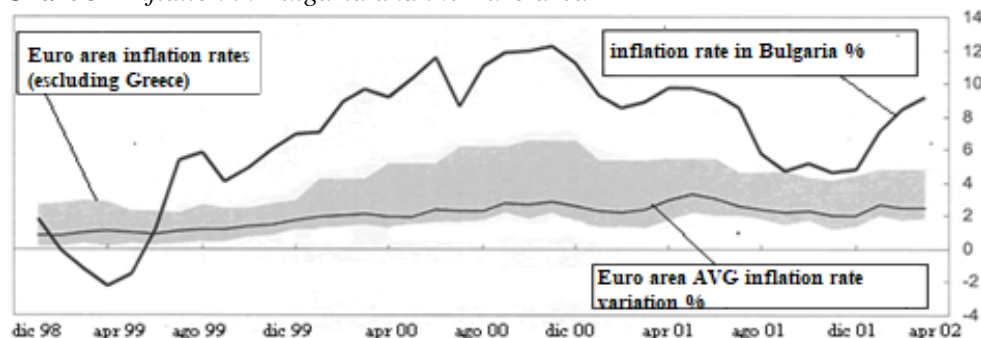
- central bank management committee independent of the government;
- ban on any direct form of lending to the government;
- clear and transparent rules regarding lender of last resort

These measures have allowed the achievement of low and stable inflation rates and satisfactory production growth rates (graph 2). Furthermore, during the period 1998-2002, inflation and the growth rate of real GDP were comparable to those of other Central and Eastern European countries (Estonia, Latvia, Lithuania, Poland, Romania, Slovakia, Czech Republic, Slovenia and Hungary) even if the inflation rate remains higher than in the other countries participating in the EMU (graph 3). Bulgarian policy *makers* seem intent on persevering with the disciplined monetary policy regulated by the *currency board* until Bulgaria joins the European Union and is integrated into the euro area.

Graph 2 - Real GDP growth rate and inflation rate in Bulgaria

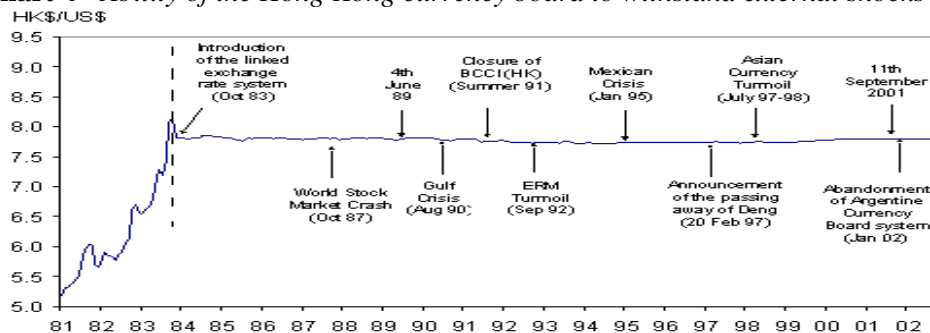


Source: Hristov - Zaimov BIS paper n.17, 2003.

Chart 3 - Inflation in Bulgaria and the Euro area

Source: Hristov - Zaimov BIS paper n.17, 2003.

Another interesting case, to complete the overview of current *currency board systems*, is the return to the Hong Kong *currency board* in 1983. In fact, Hong Kong, through the pegging of its currency to the US dollar, aimed to re-establish the trust lost following the negotiations of 1982 between China and Great Britain regarding their future. Since Hong Kong returned to the *currency board*, the exchange rate has essentially remained within the limits of the maximum expected fluctuation bands except in some cases, such as when in 1984 the exchange rate devalued following political reasons and attacks. speculative. Over time the Exchange Fund, responsible for managing Hong Kong's *currency board*, acquired greater discretionary power by carrying out open market operations in the same way as a central bank and from 1990 began issuing three-month treasury bills which were bought and sold in open market operations. This *currency board* is therefore comparable to that of Singapore which has characteristics similar to those of a central bank even if, evaluating the exchange operations carried out so far, it can be concluded that the Hong Kong *currency board* acts in an orthodox manner.

Chart 4 - Ability of the Hong Kong currency board to withstand external shocks

Source: Hong Kong Monetary Authority 2005

Hong Kong's exchange rate has been under severe strain (see chart 4) since its *inception phase* starting in October 1983: 1987 stock market crash, June 1989 events in China, 1990 Gulf War, BCCI collapse ⁶in 1991, ERM crisis ⁷of 1992, Mexican monetary crisis of 1994/95 and the recent Asian financial crisis. However, the exchange rate has remained substantially stable in the face of the aforementioned shocks and the Hong Kong government has always reiterated its commitment to continuing along this line of monetary discipline which has represented, during these years, the cornerstone of its financial stability.

Table 5 – *Characteristics of the main currency boards currently operating*

	Bosnia	Bulgaria	Estonia	Hong Kong	Lithuania
Year of establishment of the CB	1997	1997	1992	1983	1994
reason for the establishment of the CB	post-war economic reconstruction	macroeconomic stabilization.	macroeconomic stabilization.	Restore trust in operators	macroeconomic stabilization and pegging to the euro
Authority in charge of the CB	Exchange Fund	bank central	bank central	central bank	bank central
initial political situation	independent	Independent	new independent state	British colony	new independent state
current political situation	independent	independent	independent	independent	region adm. special, China
previous monetary regime	mixed	floating	belonging to the ruble area	floating	floating
anchor currency	EUR	EUR	EUR	dollar	EUR
liabilities covered by reserves	monetary base	basic monetary	currency issued	monetary base	currency issued
access to the exchange by the public	No (banks only)	Yes	no (banks only)	no (banks only)	no (just banks)
lender of last resort	No	Yes	Yes	Yes	Yes
power of the CB to change agreements	Nobody	Nobody	Nobody	Yes: in case of need	the CB can appreciate the exchange rate

Source: Based on data from Ho (2002) Hawkins and Masson (2002) and IMF (2004)

⁶ BCCI: Bank of Credit and Commerce International

⁷ ERM: Exchange Rate Mechanism

Wanting to make a comparison between the political-economic backgrounds of the most significant cases of modern *currency boards*, such as those of Hong Kong, Estonia, Lithuania, Bulgaria and Bosnia Herzegovina, we can note that: in Estonia, Lithuania and Bulgaria *currency boards* were established to achieve macroeconomic stabilization, while in Hong Kong the push for the *currency board* seems to have been mainly the need to restore the confidence of economic operators, in the case of Bosnia, finally, the *currency board* seemed to be able to guarantee an easier post-war reconstruction. In Hong Kong only, the *currency board* is managed by an independent external *Exchange Fund Committee*; in Estonia, Lithuania, Bulgaria and Bosnia and Herzegovina it is managed by the central bank. The Hong Kong *currency board* covers only 25% of the capital liabilities of the *currency board* while in Estonia, Lithuania, Bulgaria and Bosnia the classic coverage rules of 100% of the monetary issue are followed. Hong Kong's *currency board* does not impose mandatory reserve requirements as in Lithuania, Bulgaria and Estonia: in Estonia the *currency board* rules also impose additional liquid reserves on top of mandatory reserves. The *currency board* rules provide for the function of lender of last resort in Hong Kong, for systemic purposes, and in Bulgaria, in case of risk to the banking system. However, there are no explicit references to the role of lender of last resort in the rules of the Estonian and Lithuanian *currency board*; in the regulation of the Bosnian *currency board*, however, there is a prohibition on acting as lender of last resort.

5. Advantages and disadvantages of a *currency board*

Supporters of the *currency board regime* claim that it guarantees the full convertibility of the national currency, excludes the financing of public debt, eliminates exchange risks, reduces inflation to levels similar to those of the country whose currency is used as a reserve and consequently reduces the interest rates of its currency for the credibility generated by the new commitment policy. Furthermore, with a *currency board*, legal reserves that would lead to an increase in interest rates are eliminated.

Unlike a central bank, it has no competence to implement monetary policy (see Table 6). It cannot change the exchange rate or the state of bank reserves independently of changes in the balance of payments equilibrium or other market forces. The issuance function of the *currency board* is perfectly elastic at a fixed exchange rate and, therefore, the mass of money issued depends strictly on the demand for that money.

Judy and Hanke claim that, for most developing countries, a fixed exchange rate is a preferable solution to floating exchange rates. A fixed exchange rate would eliminate, without cost, the risk associated with the exchange rate against the reserve

currency. Trade between the country that issues the currency and the country that holds it as a reserve would be facilitated compared to transactions carried out with a floating exchange rate, since the risk premium in calculating prices would be eliminated. Those who produce at lower costs in the same monetary space would benefit from greater natural advantages than those who take advantage of temporary disturbances in the international price structure caused by exchange rate fluctuations. A fixed exchange rate would also allow entrepreneurs to dedicate the resources that, in a regime of floating exchange rates, they reserve for speculation on the exchange markets to other problems. The elimination of exchange rate risks should encourage foreign investors, particularly those from the country that supplies the *currency board* with reserve currency. Hanke and Schuler argue that the *currency boards* of the English colonies exerted considerable attractive power on British capital because, thanks to the fixed exchange rate with the pound, investments in the colonies were as safe as in Great Britain. This also encouraged economic growth through the export of sophisticated banking techniques developed in Great Britain. It should also be considered that a country that opts for a fixed exchange rate benefits from a *free rider effect* on the well-stabilized financial markets of the country with which it has fixed the exchange rate. Furthermore, a *currency board* should be a reliable institution since, obeying only market forces, it cannot act as an independent and disruptive factor in the economy.

Table 6 – Main differences between a currency board and a central bank

CURRENCY BOARD	CENTRAL BANK
-fixed exchange rate with an <i>anchor currency</i>	-fixed or floating exchange rate
-foreign currency reserves equal to 100% of the issued money supply	- variable foreign currency reserves
-full convertibility	-limited convertibility
-absence of monetary policy discretion.	-monetary policy discretion
-absence of lender of last resort	-lender of last resort
-does not supervise commercial banks.	-often supervises commercial banks.
-obtains seigniorage only from interest earned on reserves.	-can also obtain seigniorage by inflating the currency issued.

However, every advantage of a *currency board* has corresponding drawbacks. For example, the fixed exchange rate would lower the inflation rate but reduce the ability to cope with economic shocks. The constant monetary base/reserves ratio would provide guarantees to depositors but an inflow of foreign investments, increasing the foreign currency in the *currency board's reserves*, would automatically lead to the printing of new local money, making the country vulnerable to inflation.

The anti-inflationary benefits of a *currency board*, for countries seeking to stem inflation, should arise primarily from expectations (confidence) regarding future monetary policy. If the inflationary problem is not inertial but based on expectations,

it is reasonable to think that the *currency board* can satisfy anti-inflationary expectations. If inflation, however, is inertial it will lead to an overvaluation of the type of exchange rate in a very short time. This is why it is not possible to guarantee that local inflation will always remain equal to the inflation of the country with which the exchange rate has been pegged. Furthermore, if the economy of a country, which has decided to adopt a *currency board*, is not sufficiently open or capable of generating growth, overvaluation will quickly have a negative effect on exports⁸. Likewise, an appreciation of the reserve currency against other primary currencies would have negative implications for the country's competitiveness. Furthermore, decreasing degrees of freedom for economic authorities could be counterproductive in situations of external shocks. In the case of an increase in oil prices, for example, an importing country that maintains a fixed exchange rate will have recessive effects on its economy.

A *currency board* tends to be more exposed to financial crises due to the absence of a lender of last resort. The elimination of temporary aid to commercial banks that find themselves in a situation of solvency but lack of liquidity necessarily leads to insolvency and crisis in the banking system. Finally, by removing any possibility of financing the fiscal deficit, *currency board* arrangements often require a balance of payments level that is difficult to sustain. The ability of a *currency board* to manage fiscal policy depends critically on the government's willingness to discipline itself. Stanley Fischer argues that the independence of a central bank is always desirable to better manage monetary policy and inflation objectives, through adjustments of supply shocks after recognizing the *short-run trade-off* between inflation and unemployment. In conclusion, the *currency board system* is the strongest form of exchange rate agreement, but its "gold standard monetary rules" could place great strain on the banking system.

6. Final considerations

Currency boards that have operated in independent countries have not had a very long history and most newly independent countries currently operate 'unorthodox' *currency boards*. Some economists argue that many *currency boards* have operated successfully in the past, but it is often forgotten that the countries in which they were established were mostly colonial territories. In Britain's former colonies, for example, *currency boards* managed to deal with devaluation essentially because decision-making power was in the hands of the British Secretary of State. Currently, however, it would be difficult to think of a board of directors composed of foreign managers who would have to face possible popular opposition. Furthermore, in times of 'financial panic' deposits, in a *currency board regime*, depend solely on the trust

⁸ This was, in some respects, the situation in Argentina in the first years of the convertibility plan.

of depositors. If this trust were to fail, a banking crisis would rapidly develop and the *currency board* would be unable to deal with it given the impossibility of making last resort loans. Usually, there is a tendency to abandon the *currency board*, and more or less similar regimes, in times of banking crises. In 1847, 1857 and 1866, Great Britain, in an attempt to stem the explosive financial crises, abandoned the gold standard system which functioned similarly to the *currency board* but whose reserves were entirely in gold. However, for countries with monetary policy reputations not comparable to those of Britain at the time the gold standard agreement was broken, it would be difficult to suspend *currency board arrangements* without losing credibility. Investors who perceive the difficulties of a government in respecting the *currency board agreements* are led to transfer their capital abroad, thus creating financial panic. The adequacy of a government's political-economic institutions to respect *currency board* agreements becomes, at this point, the crucial question. However, to give political credibility, the concrete financial experiences of a country seem more relevant than particular labels (central bank or *currency board*) of the institutions that conduct monetary policy. In a country that has always shown serious monetary and fiscal discipline, the monetary policy of a central bank becomes much more credible than that of a *currency board* in a country that has let inflation rise dramatically over the years. In this case the *currency board* will not be able to immediately restore the credibility lost due to the bad economic policies conducted in the past. The favourable outcome of *currency board agreements* depends, first of all, on the reasons a country had for adopting this system. If a *currency board* is adopted as a first move to deal with a transition phase, the possible benefits deriving from the renunciation of discretionary monetary policy functions and exchange rate stability could represent the conclusion of a successful adjustment phase and lay the foundations for a next phase in which more flexible monetary policy rules will be envisaged. More problematic, however, would be the case in which a country adopted a *currency board* to gain credibility. The decision to abandon the agreements, in this case, should be based mainly on the hypothesis that the credibility obtained with the *currency board* is sufficiently strong to be able to maintain market confidence solely through expectations, by the economic operators, of effective monetary policies also after the remission of the agreements. Monetary authorities should, however, give strong consideration to the fact that banks operating under a *currency board regime* are likely to face higher volatility in interest rates resulting from being forced to conduct a "simple" monetary policy. Furthermore, if banking problems emerge that are not promptly and effectively addressed, the efficient functioning and credibility of a *currency board* could be put into difficulty.

Currency board experiences suggest that while full currency issue coverage and exchange rate rules can substantially strengthen the credibility of a stabilization program, credibility is achieved at the expense of greatly reducing the capacity and support flexibility as a lender of last resort and as a monetary policy maker. Since

these functions are, in many cases, essential for the solution of banking problems and for supporting the solidity of the credit system, it seems appropriate, when one wants to consider the adoption of a currency board agreement, to examine carefully, with a *case-by-case approach*, any costs and benefits.

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